



AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

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Title: CORONARY SINUS LEAD WITH THERMAL SENSOR AND METHOD THEREFOR

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IN THE CLAIMS

Please amend the claims as follows:

1-10. (Canceled)

11. (Previously Presented) A method comprising:

providing an implantable lead and an implantable electrical stimulation source;
coupling at least one thermal sensor with the implantable lead;
coupling at least one electrode with a portion of the implantable lead;
placing the implantable lead and one or more of the at least one thermal sensor within a coronary sinus of a heart;

measuring a myocardium temperature from at least one of the thermal sensor within the coronary sinus of the heart; and

measuring a temperature change in the coronary sinus.

12. (Original) The method as recited in claim 11, wherein coupling at least one thermal sensor includes coupling a first thermal sensor and a second thermal sensor with the lead.

13. (Previously Presented) The method as recited in claim 11, further comprising positioning a first thermal sensor within the coronary sinus, and positioning a second thermal sensor within a right atrium of the heart.

14. (Original) The method as recited in claim 13, further comprising measuring a first temperature within the coronary sinus, and a second temperature in the right atrium.

15. (Original) The method as recited in claim 14, further comprising measuring a difference between the first temperature and the second temperature, and pacing the heart in light of the difference.

16. (Canceled)

17. (Previously Presented) The method as recited in claim 11, further comprising pacing the heart with the lead, and adjusting delivery of pacing signals in light of the temperature change in the coronary sinus.

18. (Previously Presented) The method as recited in claim 11, further comprising using the temperature change in the coronary sinus as an indicator of a change in the functional status of the heart.

19. (Previously Presented) A method comprising:
providing an implantable lead and an implantable electrical stimulation source;
coupling at least one electrode with the implantable lead;
coupling at least one thermal sensor with the implantable lead, including coupling a first thermal sensor and a second thermal sensor with the lead;
placing the implantable lead within a coronary sinus of a heart and positioning the first thermal sensor within the coronary sinus, and positioning the second thermal sensor within a right atrium of a heart;
coupling the implantable lead with the implantable electrical stimulation source; and
measuring a myocardium temperature.

20. (Original) The method as recited in claim 19, further comprising monitoring temperature changes within the coronary sinus and temperature changes within the right atrium.

21. (Original) The method as recited in claim 19, further comprising providing pacing pulses to the electrode when a decrease in temperature in the first thermal sensor is detected.

22. (Original) The method as recited in claim 19, further comprising monitoring a rate of temperature change in the coronary sinus, and monitoring a rate of temperature change in the right atrium.

23. (Original) The method as recited in claim 22, further comprising determining whether the rate of temperature change in the coronary sinus is greater than the rate of temperature change in the right atrium.

24. (Original) The method as recited in claim 23, further comprising providing pacing pulses to the at least one electrode if the rate of temperature change in the coronary sinus is greater than the rate of temperature change in the right atrium, and if the temperature in the coronary sinus is less than the temperature of the right atrium.

25. (Original) The method as recited in claim 19, further comprising monitoring temperature changes in the coronary sinus and using the temperature changes in the coronary sinus as an indicator of a change in the functional status of the heart.

26. (Previously Presented) A method comprising:
providing an over the wire implantable lead and an implantable electrical stimulation source;

coupling at least one thermal sensor with the implantable lead;
coupling at least one electrode with a portion of the implantable lead;
placing the implantable lead within a coronary sinus of a heart;
positioning the one or more sensors within the coronary sinus;
measuring a myocardium temperature from at least one of the thermal sensors within the coronary sinus of the heart; and
pacing the heart with the lead, and adjusting delivery of pacing signals using the myocardium temperature measured in the coronary sinus.

27. (Previously Presented) The method as recited in claim 26, further comprising positioning a first thermal sensor within the coronary sinus, and positioning a second thermal sensor within a right atrium of the heart.

28. (Previously Presented) The method as recited in claim 27, further comprising monitoring a rate of temperature change in the coronary sinus, and monitoring a rate of temperature change in the right atrium.

29. (Currently Amended) The method as recited in claim 26, further comprising measuring a difference between a first temperature within the coronary sinus and a second temperature in a right atrium, and pacing the heart in light of the difference.

30. (Canceled)

31. (Previously Presented) The method as recited in claim 26, further comprising monitoring temperature changes in the coronary sinus and using the temperature changes in the coronary sinus as an indicator of a change in the functional status of the heart.

32. (Currently Amended) The method as recited in claim 26, further comprising providing pacing pulses to the electrode when a decrease in temperature in a first the at least one thermal sensor within the coronary sinus is detected.

33. (New) The method as recited in claim 18, wherein using the temperature change in the coronary sinus as an indicator of a change in the functional status of the heart includes determining whether a decrease in temperature has occurred.

34. (New) The method as recited in claim 31, wherein monitoring temperature changes in the coronary sinus includes monitoring a decrease in temperature and using the temperature decrease as an indicator of a change in the function status of the heart.